Amendment to the Claims:

1. (Previously Presented) A vacuum pump comprising:

an inlet port and first and second exhaust ports through which gas from an enclosure connectable to the inlet port can be pumped to said exhaust ports;

a first end, a second end, a third end, and a fourth end of a pump chamber, said first exhaust port is located adjacent said first end, said second exhaust port is located adjacent said second end, said inlet port is located adjacent said third end;

a first and second pair of rotors, said first pair of rotors being mounted on a first shaft extending between said first end and said second end of said pump chamber, said first pair of rotors being spaced apart by a first center shaft between said rotors, said second pair of rotors being mounted on a second shaft extending between said first end and said second end of said chamber, said second pair of rotors being spaced apart by a second center shaft between said rotors;

said rotors each comprise a set of screw threads; and

said first center shaft comprises a first lobe extending from said shaft and a first channel, and said second center shaft comprises a second lobe extending from said shaft and a second channel, wherein said first lobe matingly engages said second channel and said second lobe engages said first channel during rotation of said rotors.

2. (Original) The vacuum pump according to claim 1 wherein said second shaft is parallel to said first shaft.

3. (Original) The vacuum pump according to claim 1 wherein said first and second pairs of rotors each include teeth which mesh together and move a fixed volume of gas from said inlet port to said first and second exhaust ports.

4. (Original) The vacuum pump according to claim 1 further comprising a third exhaust port located at said fourth end of said pump chamber, and first, second and third exhaust cavities, wherein said first and second exhaust ports are connected via said first and second exhaust cavities to said third exhaust cavity, said third exhaust cavity is connected to said third exhaust port.

5. (Original) The vacuum pump according to claim 1, wherein said lobes are V-shaped.

6. (Original) The vacuum pump according to claim 5, wherein said channels are V-shaped.

7. (Original) The vacuum pump according to claim 1, wherein said lobes are radius-shaped.

8. (Original) The vacuum pump according to claim 7, wherein said channels are radius shaped.

9. (Original) The vacuum pump according to claim 1, wherein said first lobe and said first center shaft are of one piece.

10. (Original) The vacuum pump according to claim 1, wherein said first lobe comprises an insert secured to said first center shaft.

11. (Original) The vacuum pump according to claim 1, wherein said first lobe and said second channel form a first suction section which compresses a volume of gas entering said pump from said inlet port.

12. (Original) The vacuum pump according to claim 11, wherein said first suction section reduces the power consumed to move the volume of gas through the pump chamber and increases pump efficiency.

13. (Original) The vacuum pump according to claim 1, wherein said second lobe and said second center shaft are of one piece.

14. (Original) The vacuum pump according to claim 1, wherein said second lobe comprises an insert secured to said second center shaft.

15. (Original) The vacuum pump according to claim 1, wherein said second lobe and said first channel form a second suction section which compresses a volume of gas entering said pump from said inlet port.

16. (Original) The vacuum pump according to claim 15, wherein said second suction section reduces the power consumed to move the volume of gas through the pump chamber and increases pump efficiency.

17. (Original) A vacuum pump assembly comprising:

a first end and a second end;

an inlet port at a third end and at least one exhaust port at a fourth end;

a first shaft and second shaft parallel to each other extending between said first end and said second end, each shaft comprises a first end and a second end;

a first pair and second pair of rotors, said first pair of rotors being mounted about a diameter of said first shaft, said second pair of rotors being mounted about a diameter of said second shaft;

said first pair of rotors being spaced by a first center shaft and said second pair of rotors being spaced by a second center shaft;

said first center shaft comprises a lobe, and said second center shaft comprises a channel, wherein said lobe and said channel form a suction section.

18. (Original) The vacuum pump according to claim 17, wherein said lobe and said channel matingly engage during rotation of said rotors.

19. (Original) The vacuum pump according to claim 17, wherein said first and second pairs of rotors each comprise a set of screw threads.

20. (Original) The vacuum pump according to claim 17 wherein said first and second pairs of rotors each include teeth which mesh together and move a fixed volume of gas from said inlet port to said first and second exhaust ports.

21. (Original) The vacuum pump according to claim 17, wherein said lobe is V-shaped.

22. (Original) The vacuum pump according to claim 21, wherein said channel is V-shaped.

23. (Original) The vacuum pump according to claim 17, wherein said lobe is radius-shaped.

24. (Original) The vacuum pump according to claim 23, wherein said channel is radius shaped.

25. (Original) The vacuum pump according to claim 17, wherein said lobe and said first center shaft are of one piece.

26. (Original) The vacuum pump according to claim 17, wherein said lobe comprises an insert secured to said first center shaft.

27. (Original) The vacuum pump according to claim 17, wherein said suction section reduces the power consumed to move the volume of gas through the pump chamber and increases pump efficiency.

28. (Cancelled)

29. (Cancelled)

30. (Cancelled)

31. (Currently Amended) A vacuum pump comprising:

a pump chamber defining an inlet port and an exhaust port;

a first rotor having a first helical thread and ~~groove~~ a first helical cell extending from adjacent the inlet port to adjacent the exhaust port;

a second rotor having a second helical thread and ~~groove~~ a second helical cell extending from adjacent the inlet port to adjacent the exhaust port, the first and second helical threads and ~~grooves~~ helical cells interengaging;

a lobe mounted to the first rotor adjacent an inlet port end of the first helical thread and ~~groove~~ the first helical cell and a channel defined in the second rotor adjacent the inlet port end of the second helical thread and ~~groove~~ the second helical cell, said lobe and said channel cooperating to form a suction section adjacent the inlet port which is intermittently closed from the inlet port, the lobe and the channel being different from the first and second helical threads, the lobe, the channel, and the first and second helical threads and ~~grooves~~ helical cells being disposed within a common chamber, such that when the inlet port closes, during rotation of the rotors, suction gas is trapped in [[a]] the suction section between the lobe and channel and a directly connected portion of at least one of the first and second helical ~~grooves~~ helical cells and with continued rotation the suction gas trapped in the suction section is directly compressed into the at least one helical ~~groove~~ helical cell and is transported to the exhaust port.

32. (Original) The vacuum pump according to claim 31, wherein said lobe and said channel matingly engage during rotation of said rotors.

33. (Previously Presented) The vacuum pump according to claim 40, wherein said first and second rotors each include a set of screw threads.

34. (Previously Presented) The vacuum pump according to claim 41, wherein said first and second rotors each include teeth which mesh together to define the pumping section which moves fixed volumes of gas from said positive displacement suction sections to the exhaust port.

35. (Original) The vacuum pump according to claim 31, wherein said lobe is V-shaped.

36. (Original) The vacuum pump according to claim 35, wherein said channel is V-shaped.

37. (Original) The vacuum pump according to claim 31, wherein said lobe is radius-shaped.

38. (Original) The vacuum pump according to claim 37, wherein said channel is radius shaped.

39. (Currently Amended) A vacuum pump for pumping a gas comprising:

a pump chamber defining an inlet port and an exhaust port;

a first rotor and a second rotor, the first and second rotors being mounted in the pump chamber adjacent the inlet and exhaust ports, the first and second rotors carrying first and second intermeshing screw threads that define a screw section in the pump chamber adjacent the exit port;

a lobe mounted to the first rotor adjacent in the pump chamber the inlet port and a channel defined in and extending less than fully circumferentially around the second rotor in the pump chamber adjacent the inlet port, said lobe and said channel cooperating to form a suction section adjacent the inlet port which compresses said gas, the suction section being in direct communication with the screw section.

40. (Previously Presented) A vacuum pump comprising:

a common pump chamber defining an inlet port and an exhaust port;

a first central shaft and a second central shaft mounted in the common pump chamber and extending between the inlet and exhaust ports;

a first non-helical lobe and a first channel disposed on the first central shaft adjacent the inlet port and a second non-helical lobe and a second channel disposed on the second central shaft adjacent the inlet port, said lobes and said channels being disposed in the common pump chamber and the first lobe and second channel and the first channel and second lobe cooperating to form a positive displacement suction section in the common pump chamber adjacent the inlet port;

a first rotor disposed on the first shaft in the common pumping chamber and extending from the lobe to the exit port;

a second rotor disposed around the central shaft and extending in the common pump chamber from the channel to the exit port, the first and second rotors defining a pumping section in direct communication with the positive displacement suction section.

41. (Previously Presented) A vacuum pump comprising:

a pump chamber defining an inlet port and an exhaust port;

a first rotor and a second rotor, the first and second rotors being mounted in the pump chamber between the inlet and exhaust ports and defining a pumping section which extends to the exit port;

a first male portion mounted to the second rotor adjacent the inlet port and a first female portion defined in the first rotor adjacent the inlet port, said first male portion and said first female portion cooperating to form a first positive displacement suction section within the pump chamber adjacent the inlet port and connected to the pumping section; and

a second male portion mounted to the first rotor adjacent the inlet port which second male portion cooperates with a second female portion defined in the second rotor to define a second positive displacement suction section in the pump chamber adjacent the inlet port and in connection with the pumping section.

42. (Original) The vacuum pump according to claim 31, wherein said suction section reduces the power consumed to move the volume of gas through the pump chamber and increases pump efficiency.

43. (Previously Presented) A vacuum pump comprising:

a pump chamber including an inlet port and a pair of exhaust ports with the inlet port being defined centrally therebetween;

a first rotor and a second rotor, the first and second rotors being mounted adjacent the inlet and one of the exhaust ports;

a lobe mounted to the first rotor adjacent the inlet port and a channel defined in the second rotor adjacent the inlet port, said lobe and said channel cooperating to form a suction section adjacent the inlet port;

a third rotor mounted to an opposite side of the lobe from the first rotor and extending between the lobe and the other of the exhaust ports;

a fourth rotor mounted adjacent the channel opposite to the second rotor, the fourth rotor extending from the channel to the other exhaust port and meshingly engaging with the third rotor.

44. (Previously Presented) The vacuum pump according to claim 43, further including:

a manifold connecting the exhaust ports with a high pressure exhaust port.

45. (Previously Presented) A method for reducing power to move a volume of gas through a vacuum pump, the method comprising:

defining a first shaft section disposed in a pump chamber and having a first helical thread extending from adjacent an inlet port to adjacent an exhaust port;

defining a second shaft section disposed in the pump chamber and having a second helical thread extending from adjacent the inlet port to adjacent the exhaust port, the first and second threads intermeshing to define a screw section;

providing a lobe on said first shaft section in the pump chamber abutting an inlet port end of the first helical thread;

defining a channel on said second shaft section at an inlet port end of the second helical thread which channel matingly engages said lobe to form a suction section between the rotors and the inlet port;

rotating the shaft sections, as the shaft sections rotate:

receiving suction gas through the inlet port into the suction section;

closing the inlet port with the lobe trapping the suction gas in the suction section;

with the suction section, directly compressing the suction gas into the screw section;

with the screw section, transporting the compressed suction gas to the exit port.

46. (Original) The method according to claim 45 further including: forming said lobe and said channel in the form of V-shaped sections.

47. (Original) The method according to claim 45 further including: forming said lobe and said channel in the form of radius-shaped sections.

48. (Previously Presented) A vacuum pump comprising:

a pump chamber;

an inlet port at an inlet side of the pump chamber and an exhaust port at an outlet side of the pump chamber;

at least two screw rotors mounted in parallel in the pump chamber, each of said screw rotors having at least one helical thread, said helical threads meshing with each other to form closed cells of a screw pump section, said cells moving in a direction to the outlet side during opposite rotation of the rotors;

each of said screw rotors being mounted on a shaft, each of said shafts having an extension at the outlet side end extending in a bearing assembly and a shaft portion at its inlet side end;

at least one male portion and at least one female portion on the shaft inlet sides contiguous to the screw rotors in the pump chamber, the female portion having a complimentary negative profile to the male portion, the male and female portions interengaging each other to form at least one inlet suction section, the screw pump section and the at least one inlet suction section both being disposed in the pump chamber in direct communication with each other;

such that as the shaft rotates, said at least one male portion opens and closes the at least one inlet suction section to the inlet port; and

such that during to rotation and after closing the inlet port a suction gas trapped in the at least one inlet suction section is directly compressed into the screw pump section and transported to the exhaust port.

49. (Previously Presented) The pump according to claim 48, wherein the male portion of the at least one suction section and the rotors of the screw pump section have equal outer diameters.

50. (Currently Amended) The pump according to claim 48, wherein ~~the~~ at least one male portion includes two lobes mounted on each shaft and wherein the rotors of the screw pump section each have two helical teeth.

51. (Currently Amended) The pump according to claim 48, wherein the number of male portions of said inlet suction section is equal to a number of teeth of the rotors of the screw pump section.

52. (Currently Amended) A method of evacuation using a vacuum pump which includes a first shaft section disposed in a pump chamber and having a first helical tooth and helical ~~groove~~ cell extending from adjacent an inlet port to adjacent an exhaust port, a second shaft section disposed in the pump chamber and having a second helical tooth and helical ~~groove~~ cell extending from adjacent the inlet port to adjacent the exhaust port, the helical teeth and ~~grooves~~ helical cells intermeshing, a male ~~portion~~ lobe on the first shaft section in the pump chamber abutting an inlet port end of the first helical tooth and groove, a female ~~portion~~ channel defined on the second shaft section in the pump chamber abutting an inlet end of the second helical tooth and ~~groove~~ cell, the female ~~portion~~ channel matingly engaging the male ~~portion~~ lobe, the method comprising:

rotating the shaft sections;

receiving a suction gas through the inlet port into an inlet suction section defined by the female ~~portion~~ lobe;

with continuing rotation of the shaft sections, closing the inlet port with the male ~~portion~~ lobe trapping the suction gas in the suction section;

with continuing rotation, rotating the male lobe and female ~~portions~~ channel into mating engagement to compress the suction gas into one of the ~~grooves~~ helical cells;

with continued rotation, transporting the compressed gas to the exit by intermeshing action of the intermeshing helical teeth and ~~grooves~~ and cells.